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Comparability Effects of Mandatory IFRS Adoption

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Comparability Effects of Mandatory IFRS Adoption

ABSTRACT: The mandatory adoption of IFRS by many countries worldwide fuels the expectation that financial accounting information might become more comparable across countries. This expectation is opposed to an alternative view that stresses the importance of incentives in shaping accounting information. We provide early evidence on this debate by investigating the effects of mandatory IFRS adoption on the comparability of financial accounting information around the world. Using two comparability proxies based on De Franco et al. [2011], our results suggest that the overall comparability effect of mandatory IFRS adoption is marginal at best. To investigate the reasons for this finding, we first hand-collect data on IFRS compliance for a sample of German and Italian firms and find that firm-, region-, and country-level incentives systematically shape accounting compliance. We then use the identified compliance incentives to explain the variance in the comparability effect of mandatory IFRS adoption and find it to vary systematically with firm-level incentives, suggesting that only firms with high compliance incentives experience substantial increases in comparability.

Keywords: international accounting, IFRS, comparability, accounting harmonization, financial accounting compliance, reporting incentives

JEL Classification: M41, G14, F42

1. Introduction

The mandatory adoption of International Financial Reporting Standards (IFRS) by European listed firms in 2005, accompanied by similar regulatory action worldwide, represents one of the most influential accounting rule changes in history. The switch from a diverse set of domestic GAAPs to a single common set of accounting standards affects thousands of companies that differ in terms of size, ownership structure, capital structure, culture, legal environment, among other characteristics (Schipper [2005]). In this paper we investigate whether the adoption of harmonized accounting standards has a material effect on the comparability of financial accounting information provided by firms from different institutional environments.

European policy makers state that the reason for mandating a common set of accounting standards for listed companies is to "level the playing field" for participants in the European capital market by increasing the comparability of financial statements prepared by publicly traded companies across Europe (Regulation (EC) No. 1606/2002, Par. 1). The International Accounting Standard Board (IASB) similarly argues that a single set of high quality global accounting standards will provide financial market participants with comparable financial statements and thereby help them make economic decisions (IASC Foundation, Constitution 2(a)). Increased cross-country comparability is also thought to be the main motivation behind the Securities and Exchange Commission's (SEC) continuing support for convergence and global accounting standards (SEC, 2010) and its proposal to require U.S. firms to file their financial reports based on IFRS (SEC, 2008, Hail et al. [2010], Joos and Leung [2011]). To the extent that mandatory adoption of IFRS successfully levels the playing field for market participants by introducing high

quality accounting standards across countries, we should observe two first-order effects: an improvement in financial reporting quality (transparency), and an improvement in the cross-sectional comparability of financial accounting information (Hail et al. [2010]).

To date, however, the majority of studies on mandatory IFRS adoption primarily investigates only one of the two first-order effects above, namely, changes in financial reporting quality (see Ahmed et al. [2010], Atwood et al. [2011], Landsman et al. [2011]), as well as second-order capital market consequences (see Beneish et al. [2009], Daske et al. [2008], Li [2010], Yu [2010]) of the IFRS mandate. Surprisingly, little evidence has been produced on the other important first-order effect, that is, on changes in cross-country comparability of accounting information, even though financial reporting comparability is generally considered by policy makers and researchers alike to be vital to investors' decision making and efficient asset allocation. Thus, to our knowledge, our study is one of the few attempts to explicitly analyze the impact of mandatory IFRS adoption on the cross-country comparability of financial accounting information.

We address our research question using an identification strategy that is developed in three stages. First, we try to directly observe the impact of mandatory IFRS adoption on the comparability of financial accounting information by using two measurement constructs based on the recent work by De Franco et al. [2011]. Accounting information can be regarded as more comparable across countries if subsequent to IFRS adoption firms from similar economic environments but different countries exhibit similar mappings of economic events into financial statements. To identify the impact of IFRS adoption, we apply a variant of the standard difference-in-differences analysis (Bertrand

et al. [2004]; Daske et al. [2008]). We construct our sample by calculating average comparability levels across sets of firm-pairs stemming from one industry but two different countries. We assume the IFRS treatment to be heterogeneous for the resulting country-pair observations because the effect of IFRS on the local accounting regime of a given country varies systematically with the proximity of the local accounting regime to IFRS (Bae et al. [2008], Yu [2010]). Based on this rationale we are able to predict varying IFRS treatment effects whenever at least one of the two countries that form the respective country-pair is switching to IFRS, while our control group contains country-pairs where both countries did not adopt IFRS. This heterogeneity of the IFRS treatment allows us to effectively control for a possible time-invariant sample selection bias in a "difference-in-difference-in-differences" (DDD) design (Bertrand et al. [2004]).

Based on this research design, we find no clear evidence of the effect of mandatory IFRS adoption on comparability. Our second test aims to shed light on why mandatory adoption of IFRS might have only a limited impact on the comparability of financial accounting information. To address this question, we need a high quality firm-level measure of comparability. We employ a set of hand-collected data on the IFRS measurement and disclosure choices of German and Italian firms to directly investigate the firm-, region-, and country-level determinants of measurement and disclosure compliance. The adoption of IFRS can only develop an effect on accounting outcomes if companies comply with the new set of rules. Lax compliance is consistent with managerial incentives having a predominant role in shaping accounting outcomes. As managerial incentives vary both systematically and unsystematically across firms, we expect them to reduce the comparability effect of mandatory IFRS adoption. Therefore

our strategy is to identify different incentives for compliance with accounting standards at the firm, region, and country levels. We argue that firms with high incentives to comply are the ones that are likely to experience more pronounced comparability effects from IFRS adoption.

Using only a sub-sample of countries allows us to dive deeper into their institutional determinants. Within countries institutional complementarities are important determinants and tend to shape reporting practices over time (Leuz [2010]). The selection of Germany and Italy is motivated by the following three factors: (a) they share the same legal origin (code law), (b) one of them has a substantial history of voluntary adopters, and (c) they exhibit substantial differences in their respective domestic GAAPs prior to IFRS adoption. While these two countries share the same legal regime and are of roughly the same economic size, and hence from a bird's eye perspective could be considered rather similar, a closer look reveals significant differences. Italy can be described as a relationship-based system rooted in family-run small and medium-sized enterprises forming pyramidal groups (Aganin and Volpin [2003]), with low levels of investor protection, high private benefits of control, high minority shareholder expropriation risk (Zingales [1994]), weak legal enforcement (La Porta et al. [1998]), highly concentrated ownership (Barca [1995]), strong bank orientation and underdeveloped equity markets (La Porta et al. [1997], Pagano et al. [1998]). In contrast, over the last two decades Germany has experienced a series of economic reforms that have pushed the country more towards an arm's length economic system (Leuz and Wüstemann [2004], Baums and Scott [2005]). In short: these two countries are reasonably similar in terms of auditing and enforcement, so we can expect harmonized

standards to have an effect on the comparability of accounting information, but they also provide us with a vector of institutional differences that should give rise to heterogeneity in incentives.

The results of our second test provide clear evidence that a lack of financial accounting comparability subsequent to IFRS adoption can be explained by domestic GAAP, as well as by other firm-, region-, and country-level factors. We interpret this evidence as indicating that compliance incentives are important as they shape accounting information even within a set of countries that share a common set of accounting standards. In some institutional environments, firms might just adopt the "IFRS label" without any serious commitment to transparency. Because firms have considerable discretion in "how" they adopt IFRS, label adoption is likely to be associated with poor standard compliance (Daske et al. [2011]).

Third, we use the compliance incentives identified in the second set of tests to investigate whether comparability effects are influenced by incentives to comply. We find that high compliance incentives increase the overall comparability of financial accounting information as they limit the impact of the local infrastructures on comparability and moderate the treatment effect of mandatory IFRS adoption. Firms with more incentives to comply experience systematically larger IFRS comparability effects.

We conclude from our analysis that the effect of mandatory IFRS adoption on accounting comparability can be expected to be marginal on average and centered on firms with high incentives to comply.

Taken together, our findings indicate that the mandatory adoption of IFRS has only a limited impact on the cross-country comparability of financial accounting information. This is consistent with Leuz [2010] who documents the existence of robust institutional clusters around the world. Given complementarities among countries' institutions, these clusters are likely to persist and, as a consequence, a global convergence of reporting practices is highly unlikely despite regulators' efforts to harmonize accounting standards. We propose and test some explanations for the limited effect of mandatory IFRS adoption on comparability. Studying the disclosure choices of IFRS adopting firms, we find that those are driven by incentives at the firm, region, and country levels.

Our paper makes three distinct contributions to the growing body of literature that investigates the effects of IFRS adoption.

First, we extend previous work that focuses on the overall first-order effects of mandatory IFRS adoption on transparency and comparability (Ahmed et al. [2010], Atwood et al. [2011], Landsman et al. [2011]) by focusing on the effect of mandatory IFRS adoption on the comparability of accounting information. In particular, we complement and extend the findings of Lang et al. [2010] who, in a concurrent project that also uses the comparability measure proposed by De Franco et al. [2011], investigate the impact of mandatory IFRS adoption on earnings comovement and accounting comparability. They document a positive IFRS effect on earnings comovement and a negative impact on accounting comparability. We extend their findings among three dimensions. First, we use an identification strategy acknowledging that the comparability effect of mandatory IFRS adoption varies systematically with the local GAAP regime of the respective firm. This also implies that the average comparability of firms in non-

adopting countries will also be affected by IFRS adoption. Second, we develop a cash flow-based measure of accounting comparability to avoid the problem that cross-country differences in the return-based comparability developed by De Franco et al. [2011] might be driven by changes in capital market efficiency (Holthausen, [2003]). Third, in order to identify potential reasons for the overall limited comparability effect of mandatory IFRS adoption, we also rely on hand-collected compliance data that increase the internal validity of our findings. We then show that these identified compliance incentives systematically moderate the IFRS effect on comparability for our worldwide sample. Further, we extend concurrent work by Barth et al. [2011], who investigate the impact of IFRS adoption on the "value relevance comparability" with U.S. GAAP. Our comparability measures and tests aim to capture *cross-country comparability*, while the focus of Barth et al. [2011] is on the narrower concept of comparability with U.S. firms.

Second, we provide additional evidence on the ongoing "standards versus incentives" debate in the accounting literature. Our results show that both forces shape accounting information simultaneously, and support the claim of prior studies that a change in accounting standards is not sufficient to achieve a significant shift in accounting outcomes.

Third, by developing our cash flow-based comparability measure, we contribute to recent attempts in the literature (De Franco et. al. [2011]) to specify empirical constructs intended to capture cross-country comparability from the perspective of financial statement users. Our accounting-based measure has the advantage to overcome the potential limitations that market-based comparability metrics face with cross-country samples.

The remainder of the paper proceeds as follows. Section 2 provides a discussion of the related literature. Section 3 presents our research design, sample, and results. Finally, Section 4 concludes.

2. Related Literature

Comparability, together with relevance and reliability, is a key qualitative characteristic of accounting information. Comparable financial statements are generally believed to facilitate investors' resource allocation and investment decisions (FASB 1980, FASB 2008, IASB 1989, IASB 2008, SEC 2000). Capital market regulators further believe that a common set of accounting standards can lead to improved comparability. The mandatory adoption of IFRS by European listed firms thus aims to enhance comparability (as well as financial reporting quality) across European countries by introducing a single set of high quality accounting standards (Regulation (EC) No. 1606/2002).

However, while comparability of accounting information is considered of paramount importance for facilitating investors' decisions and enhancing efficient asset allocation, to date most studies that investigate the mandatory adoption of IFRS focus on either changes in financial reporting quality or capital market consequences rather than on changes in cross-country comparability. Studies that focus on changes in financial reporting quality include Ahmed et al. [2010], Atwood et al. [2011], and Landsman et al. [2011]. Taken together, the studies so far present an ambiguous picture about the quality effect of mandatory IFRS adoption.

Among the studies that address the capital market consequences of IFRS adoption, Li [2010] shows that the 2005 IFRS mandate by European countries has reduced firms' cost of capital only in countries with strong enforcement. Studies that look at the effects of

IFRS on firms' equity ownership include Yu [2010], who shows that the IFRS mandate has increased cross-border equity holdings because of the joint effect of a reduction in foreign investors' information processing costs and a decrease in other barriers such as geographic distance, and Beneish et al. [2009] who look at the impact of IFRS on countries' ability to attract foreign capital and find no discernible effect for equity investments while they document a positive effect on debt investments.

An attempt to investigate the capital market consequences of IFRS adoption through the lens of comparability has been recently carried out by DeFond et al. [2011]. The idea behind their work is that if IFRS increases comparability and reduces the cost of comparing financial statements prepared under different GAAPs, this should positively affect U.S. mutual fund holdings in foreign firms. DeFond et al. [2011] use two input-based measures that look at the accounting standards adopted: the "GAAP heterogeneity measure" captures the decrease in accounting standard heterogeneity in a given industry as a result of IFRS adoption, and the "GAAP peer measure" computed as the ratio of the number of firms in a given industry using IFRS subsequent to IFRS adoption to the number of firms in the same industry applying local GAAP prior to IFRS introduction. The authors find that the benefit of increased comparability, in terms of size of mutual fund investments, is higher for voluntary than for mandatory adopters; further, for the latter, discernible effects of improved comparability only obtain in countries with serious implementation processes. A related study that also uses an input-based comparability construct based on accounting method choice is Bradshaw et al. [2009]. The authors capture comparability as the difference between a firm's accounting method choices and

those of its industry peers and find that firms with atypical accounting methods experience larger analyst forecast errors and increased forecast dispersion on average.

Despite the growing literature on mandatory IFRS adoption, to date no published study has looked at the direct effect of the adoption on comparability. A potential reason for this gap in the literature may be the lack of established proxies for comparability. Indeed, De Franco et al. [2011, p. 896] recently observe that "*The term comparability in accounting textbooks, in regulatory pronouncements, and in academic research is defined in broad generalities rather than precisely*." Rather than relying on input-based measures of accounting comparability that are related to standards and accounting method choices, De Franco et al. [2011] propose a measure of financial statement comparability that is firm-specific, output-based, and seeks to capture comparability from the perspective of financial statement users. Their construct, labeled "financial statement comparability", reflects the idea that if the same economic events are accounted for homogeneously by two firms (i.e., the two firms show a similar "mapping" of economic events into financial statements), the two firms should have comparable accounting systems. Empirically, the authors proxy for economic events and the output of financial statements using stock returns and earnings, respectively; the more similar the mapping between earnings and returns across firms, the more comparable the accounting systems.

A few working papers explicitly investigate the impact of IFRS adoption on accounting comparability. Following the output-based approach proposed by De Franco et al. [2011], in concurrent work Barth et al. [2011] investigate whether the adoption of IFRS by non-U.S. firms increases the comparability of accounting information with respect to U.S. firms applying U.S. GAAP. The authors operationalize comparability by

looking at both "accounting system comparability" and "value relevance comparability." Accounting system comparability is measured as the difference between predicted stock returns based on U.S. GAAP and IFRS pricing multiples: the lower the difference in predicted returns, the higher the level of comparability. Value relevance comparability looks at differences in the value relevance of earnings between U.S. GAAP and IFRS firms: an increase in the homogeneity of value relevance levels subsequent to IFRS introduction indicates higher comparability. The authors document that following IFRS adoption, IFRS firms and U.S. GAAP firms exhibit higher accounting system and value relevance comparability although some differences still persist.

Lang et al. [2010] use the earnings/returns approach (accounting comparability) and the "earnings comovement" construct (developed in a previous working paper version of De Franco et al. [2011] but discarded in the published version of the paper) to examine changes in cross-country comparability caused by the mandatory IFRS adoption and the effects of these changes on firms' information environments. They find a decrease in the cross-country comparability of accounting information and an increase in cross-country earnings comovement subsequent the IFRS mandate. The decrease in earnings comovement is negatively associated with favorable properties of the firm-level information environment.

Using a sample of U.K. firms, Brochet et al. [2011] document a decrease in information asymmetries following the introduction of IFRS and interpret this as evidence of an increase in the comparability of accounting information. Wang [2011] looks at cross-country information transfers to capture the comparability effect of IFRS adoption. She finds for the post IFRS adoption period larger information transfers

(proxied by market reactions by firms to earnings announcement of a foreign firm) and interprets this evidence as indicative of IFRS increasing comparability. While these studies attempt to look at the comparability effects of IFRS adoption, they rely on second-order capital market consequences (i.e., changes in the information environment, reduction in information asymmetries, increase in information transfers) to investigate the first-order effect of accounting comparability.

In sum, most of the studies on IFRS adoption focus on accounting quality issues or second-order capital market consequences while the evidence on the important first-order effect of comparability appears surprisingly scant. Thus, to our knowledge, this is one of the few studies that explicitly analyze the impact of mandatory IFRS adoption on the cross-country comparability of financial accounting information with a focus on first-order effects. Also, it is the first study that addresses the heterogeneity of the comparability effect of mandatory IFRS adoption caused by the variance of local GAAP regimes (Hail et al. [2010]) and investigates the cross-sectional determinants of the comparability effect.

3. Empirical Analyses

3.1 IDENTIFICATION STRATEGY

This paper investigates the impact of mandatory adoption of IFRS on the comparability of financial accounting information across the world.

Our view of accounting comparability is similar to De Franco et al. [2011]. Financial accounting outcomes are regarded as being perfectly comparable whenever firms that face the same economic events provide the same financial accounting

information. Firms facing similar economic events should therefore report similar financial accounting information while firms experiencing dissimilar economic events should report dissimilar financial accounting information.

In order to identify the effect of mandatory IFRS adoption on comparability, we follow the methodology introduced by De Franco et al. [2011]. These authors assess the comparability of financial accounting information by measuring the similarity of the earnings-return relation for subsamples of U.S. firms grouped by industry. If firms have similar "mappings" of economic events (the earnings-return relation is similar), then their accounting should be comparable. They use the coefficient estimates of quarterly firm-specific time series regressions of earnings on returns to assess the degree of comparability. Each regression encompasses 4 years of observations (16 quarters). The coefficients of these regressions are then used to predict earnings of the investigated firms. In addition, the estimated coefficients of other firms within the same industry are used with the returns of the investigated firms to produce alternative earnings predictions based on the coefficients of the industry peer firms. The smaller the average absolute forecast errors of these different earnings predictions, the more comparable the accounting earnings of the respective firm to its peers. De Franco et al. [2011] limit the measure to the most comparable peers and average their measure over the last four calendar years, effectively basing their measure on 8 years of quarterly data.

While De Franco et al. [2011] have the possibility to use long firm-specific time series of quarterly data from firms of the same institutional environment, our setting requires some adjustments to their methodology that are very similar to the modifications

applied by Lang et al. [2010].[1] First of all, we use annual data as cross-country differences in reporting frequency and lack of quarterly data availability make the quarterly data approach unfeasible in our international setting; second, our post IFRS period is limited to four years of data; and finally, we are contrasting comparability effects across different countries whose markets possibly exhibit variation in information efficiency.

In order to adjust our methodology accordingly, we measure the comparability of accounting information for a given country-industry group (based on SIC 2-digits) with the same industry group from other countries. We assess the comparability separately for a 4-year time period prior IFRS adoption (2001-2004) and post IFRS adoption (2005-2008). Our sample is therefore organized by industry, country, peer-country and pre/post accounting regime change (additional details about the sample structure and an illustrative example are provided in Appendix 1).

For each firm within a country-industry group, we estimate the following two models separately for the two time periods pre (last year = 2004) and post (last year = 2008) IFRS adoption:

$$(1) \quad NIBE_{p,i,t} = \alpha_{p,i,0} + \alpha_{p,i,1} RET_{p,i,t} + \varepsilon_{p,i}$$

$$(2) \quad NIBE\_TA_{p,i,t} = \beta_{p,i,0} + \beta_{p,i,1} CFO\_TA_{p,i,t} + \varepsilon_{p,i},$$

where p indicates the period (pre or post IFRS), i denotes the firm, t is a time indicator for the year, NIBE stands for net income before extraordinary items (deflated by lagged

[1] Lang et al. [2010] provide convincing evidence indicating that their approach, which is very similar to ours, yields comparability measures that are consistently linked to firm-level measures of the information environment (analyst following, forecast accuracy, forecast dispersion, and bid ask spreads) in an economically meaningful way. Also, they show that their results are similar if they rely on a subset of firms with quarterly data available. We provide additional tests for the identification quality of our measures in the results and in the additional analyses sections.

market capitalization), RET stands for the annual buy and hold return, NIBE_TA indicates net income before extraordinary items (deflated by lagged total assets) and CFO_TA stands for the cash flow from continuing operations (deflated by lagged total assets). Resulting coefficients from estimating models (1) and (2) are truncated at the top 1 and 99 percentiles of their distributions.

Model (1) closely resembles the approach of De Franco et al. [2011]. As reliance on stable levels of market efficiency across countries and time might be problematic in a multi-country setting, we use an alternative modeling approach inspired by Ball and Shivakumar [2006] to capture the same notion of mapping of economic events while avoiding the potentially confounding effects of differences in market efficiency. Model (2) has the advantage of capturing economic events via cash flows and therefore rules out any difference in market efficiency concerns. The firm-period-level coefficients of each model are then used to predict earnings for the investigated firm. In addition, the coefficients of each industry-peer firm (from the same and different countries) are used to produce alternative earnings predictions. The absolute difference of these earnings predictions is averaged across country, peer-country and industry to produce our comparability measure:

$$(3)\quad DKVCOMP_{p,ci,cj,k} = -\frac{\sum_{i,j}\left|\alpha_{p,i,0} + \alpha_{p,i,1}RET_{p,i} - \left(\alpha_{p,j,0} + \alpha_{p,j,1}RET_{p,i}\right)\right|}{n_{p,ci,cj,k}},$$

where DKVCOMP indicates our De Franco et al. [2011] based comparability measure derived from estimations of model (1), *ci* stands for the country of firm *i*, *cj* stands for the country of firm *j*, *k* stands for the two-digit industry code of firms *i* and *j* and $n_{p,ci,cj,k}$ indicates the number of available firm pairs within industry *k* with firm *i* from country *ci*

and firm *j* from country *cj* and, in case of *ci* = *cj*, *i* ≠ *j*. All other variables are as previously defined.

Following the same approach, we calculate our alternative cash flow-based comparability construct (CFCOMP) as:

$$(4)\quad CFCOMP_{p,ci,cj,k} = -\frac{\sum_{i,j}\left|\beta_{p,i,0} + \beta_{p,i,1}CFO\_TA_{p,i} - \left(\beta_{p,j,0} + \beta_{p,j,1}CFO\_TA_{p,i}\right)\right|}{n_{p,ci,cj,k}},$$

where all variables are as previously defined. In addition, we calculate rank-based measures of DKVCOMP and CFCOMP (R_DKVCOMP and R_CFCOMP) where we percentage-rank each absolute difference of earnings predictions for each *i,j* firm pair, separately for each period and for each firm *i*. These ranks are than averaged across period, country, peer-country, and industry group. Using this ranking approach we are able to investigate non-parametric effects of shifts in the country distributions of comparability pre and post IFRS adoption.

We are using the quasi-experimental setting of mandatory IFRS adoption as our treatment. In line with prior literature, we assume the treatment decision to be exogenous in the sense that we do not control for the potential self-selection of countries into the treatment group. As our treatment is assigned at the country level our main level of analysis lies on the comparability effects at the country-country level meaning that we measure comparability at the industry-level separately for pairs of countries.

When we try to model the determinants of comparability for a pair of countries we first control for country-level and industry-level determinants of comparability by including two-way country and industry-level fixed effects. This controls for, e.g., differences in country-level institutions. For example, a fixed effect for country A will

control for the effect of the enforcement system of country A that reduces the variance of accounting outcomes in country A. Besides being influenced by country-level infrastructures we assume the comparability of accounting information between two countries to be influenced by the similarity of their respective GAAP regimes, meaning that two countries with similar GAAP regimes should have firms with more comparable accounting information. Thus, our main independent variable of interest is the difference of accounting regimes across pairs of countries. This strategy enables us to assess the effect of the IFRS treatment by modeling the change of country-country-level GAAP proximity caused by IFRS adoption. While other research in the area mostly models the IFRS treatment as a binary variable, our identification strategy builds on the systematic variance of the IFRS regime shock across countries (similar to Yu [2010]) and further acknowledges that the IFRS adoption should also potentially affect the cross-country accounting comparability of firms from non-adopting countries. We identify the effect of IFRS adoption by estimating a change model that captures the effect of IFRS induced changes in GAAP proximity on changes in accounting comparability across time. By using a change setup based on two observations pre and post we avoid the serial correlation problem that potentially affects difference-in-differences studies based on panels with longer time series (Bertrand et al. [2004]).

In the second set of tests, we turn our focus to the degree to which adopting firms comply with IFRS, and the determinants of compliance across firms and countries in order to identify potential firm-level variables that are likely to moderate the overall comparability effect. To do so, we use a hand-collected sample of accounting measurement and disclosure compliance data of German and Italian IFRS adopting firms.

While our first set of tests is based on large cross-country samples and therefore to some extent sacrifices internal validity for external validity, this "boutique" sample allows us to measure financial accounting information and compliance with higher precision and to unambiguously link this information to the effect of IFRS adoption, leading to a high level of internal validity. Full comparability would imply the same compliance levels across firms. We therefore regard the degree of compliance as an additional dimension of accounting information comparability. Using a classification instrument presented in Appendix 2, we find significant differences in IFRS measurement and disclosure compliance across German and Italian firms' 2006 annual reports. Since we are able to measure differences in incentives at the firm level, we can investigate whether firm-, region- and country-level incentives explain the differences in disclosure compliance that we document.

The third set of tests follows a similar design to the first test, but builds on the identified compliance incentives from the second set of tests (size and auditor type) to investigate whether compliance incentives are moderating the comparability effect of mandatory IFRS adoption.

3.2 SAMPLE SELECTION

Our first and last sets of tests focus on publicly traded firms from 29 different countries (14 IFRS adopters and 15 non-IFRS adopters) and cover the period 2001 to 2008. The sample selection starts with all firms in the Worldscope universe of countries that have more than 100 public firms followed by Worldscope. From this initial sample, we delete all firm-year observations that correspond to voluntary IFRS adoption; all of our findings are thus based on mandatory adopters. We further delete firm-year observations for

which returns data from Datastream are not available, or for which any other data necessary for estimating our comparability measures are absent. Since our main focus lies on the identification of comparability effects across time, we require a balanced panel of firms to rule out changes in comparability across time that are caused by sample changes. In addition, we require each country to have at least 50 firms with sufficient data. This procedure yields a base sample of 78,784 firm-year observations to construct our comparability measures. Descriptive statistics for both treatment and control samples can be found in Panel A of Table 1.

[Table 1 about here]

The base sample comprises 9,848 firms (78,784 firm-year observations).[2] We estimate our models (1) and (2) for each firm-period in our sample, yielding a maximum of 19,690 coefficients per model. Based on the coefficients and the methodology discussed above we calculate our comparability metrics at the period, country, peer country, and industry level. The resulting descriptive statistics are disclosed in Panels B and C of Table 1.[3] Throughout the analysis higher values of our measures indicate that the financial accounting regimes of the two respective countries for a given period and industry are more comparable with each other.

Our second set of tests requires hand-collection of financial reporting and governance data. Given our interest in identifying country- and firm-level determinants of comparability while balancing the data collection costs, we study a sub-sample of

[2] Like in related studies, large countries such as the U.S., Japan, and the U.K. have a significant share of the reported sample. Excluding these countries from our analysis renders qualitatively comparable results (see the robustness section for more detail).

[3] Conceptually, 29 countries and 73 two-digit SIC industry groups would allow for a total of29*29*73 = 61,393 observations for each period. However, we require at least three firms for each country-country-industry bin reducing the sample to 16,816 observations covering all countries and 69 industries.

German and Italian firms. The sample comprises all Italian IFRS adopters and all German late adopters as well as a matched sample of German firms. The total sample size is 405 observations.

3.3 BASE TEST FOR THE COMPARABILITY EFFECT OF MANDATORY IFRS ADOPTION

In order to verify our identification strategy we first focus on the pre IFRS adoption period (2001-2004). If our comparability measures capture differences in financial accounting regimes, they should be systematically linked to the proximity of GAAP across countries. In order to test whether this is the case, we estimate the following model on the pre IFRS section of the sample:

$$(5) \quad COMPM_{ci,cj,k} = \sum_{ci} \delta_{ci} COUNTRY_{ci} + \sum_{cj} \delta_{cj} PCOUNTRY_{cj} + \sum_{k} \phi_k INDUSTRY_k + \gamma_1 SMCTRY_{ci,cj} + \gamma_2 GAAP\_PROX_{ci,cj} + \varepsilon_{ci,cj,k},$$

where COMPM stands for the comparability measure used (either DKVCOMP, R_DKVCOMP, CFCOMP, or R_CFCOMP), COUNTRY is a series of *ci* country fixed-effects, PCOUNTRY is a series of *cj* peer-country fixed effects, and INDUSTRY is a series of industry fixed effects. SMCTRY is a binary variable that takes the value of one if *ci* = *cj*, indicating that the comparability of financial accounting regimes within one country is observed.[4] As prior literature indicates that the financial accounting regime is not only influenced by accounting standards but also by other institutional factors, we assume that, *ceteris paribus*, firms from the same country show higher levels of financial accounting comparability. GAAP_PROX is based on the work of Bae et al. [2008] who

[4] In untabulated robustness checks we also include additional control variables (mean size, mean book-to-market, standard deviation of earnings and cash flows) into our model (5). Our inferences remain unchanged.

build their GAAP proximity measure on the information available in the international GAAP survey study by Street [2001]. This measure captures country-pair GAAP distance by counting differences between two countries based on the GAAP differences measure presented in Bae et al. [2008: Table 1]. We define GAAP_PROX as the negative number of differences divided by the maximum number of differences observed across all country-pairs, so that larger values of GAAP_PROX indicate higher similarity of GAAP across countries. We expect the coefficients of SMCTRY and GAAP_PROX to be significantly positive for our pre IFRS data.

[Table 2 about here]

The results of the respective tests are reported in Panel A of Table 2. All reported coefficients show the predicted sign with six out of eight being significant at conventional levels. We take this as evidence indicating that our identification strategy is sufficiently powerful to detect the effect of financial accounting standards on financial accounting comparability.

The next test directly investigates the IFRS treatment effect on comparability, using a difference-in-difference-in-differences approach. To use each country-country pair as its own control, we estimate the following change model:

$$\Delta(COMPM_{ci,cj,k}) = \sum_{ci} \delta_{ci} COUNTRY_{ci} + \sum_{cj} \delta_{cj} PCOUNTRY_{cj} + \sum_{k} \phi_k INDUSTRY_k + \gamma_1 SMCTRY_{ci,cj} + \gamma_2 IFRS\_EFFECT_{ci,cj} + \varepsilon_{ci,cj,k}, \quad (6)$$

where Δ(COMPM) stands for the change in the respective comparability measure (either DKVCOMP, R_DKVCOMP, CFCOMP, or R_CFCOMP) from the pre period to the post period, positive values indicating an increase in comparability. IFRS_EFFECT captures

the change in GAAP_PROX caused by the adoption of IFRS in the treatment countries.[5] Since the adoption of IFRS has affected the GAAP of some treatment countries to become more dissimilar relative to some control countries, values of the IFRS_EFFECT can be negative as well as positive. If the mandatory adoption of IFRS has had an effect on the international comparability of financial accounting information, we expect the coefficient of IFRS_EFFECT to be significantly positive. We make no prediction for SMCTRY.

As it can be assessed from Panel B of Table 2, we do not find a robust treatment effect of IFRS across our models. The relevant coefficient has the predicted sign in three out of four cases (Δ(R_DKVCOMP), Δ(CFCOMP), and Δ(R_CFCOMP)) and significantly so in one regression (Δ(R_CFCOMP)). Based on this analysis we conclude that the effect of mandatory IFRS adoption on the comparability of financial accounting information is marginal at best. The next set of tests investigates the determinants of IFRS compliance to develop some potential explanations on why the overall comparability effect of mandatory IFRS adoption might be limited.

3.4 COMPLIANCE TESTS

Our second series of tests investigates the cross-country determinants of accounting measurement and disclosure compliance. The expected comparability effect of mandatory IFRS adoption is based on the assumption that companies comply with the new set of rules. Lax compliance is consistent with managerial incentives having a predominant role in shaping accounting outcomes. As managerial incentives vary both

[5] In untabulated robustness checks we also include additional control variables (change in mean size, change in mean book-to-market, change in standard deviation of earnings and cash flows) into our model (6). Our inferences remain unchanged.

systematically and unsystematically across firms, we expect them to reduce the comparability effect of mandatory IFRS adoption. Our strategy therefore is to identify different incentives for compliance with accounting standards (at the firm, region and country levels). We argue that firms with high incentives to comply are the ones that are likely to experience more pronounced comparability effects from IFRS adoption.

Using a unique dataset on the 2006 accounting measurement and disclosure compliance of German and Italian firms that are publicly listed since at least 2004 and that adopted IFRS in 2005 (so-called "late adopters"), we first investigate whether there are significant differences in accounting measurement and disclosure compliance across countries for these firms. To do so, we hand-collect accounting measurement and disclosure compliance data from the group financial reports of all firms that meet our data requirements (136 German and 153 Italian firms). Financial reports for the fiscal year 2006 are either downloaded from the respective stock exchange website or the respective firm investor relation website, while governance data are manually retrieved from the Italian market regulator's (CONSOB) website and corporate governance reports for Italian firms and from the Frankfurt Stock Exchange website and financial reports for German firms. From the 2006 financial reports of these firms, we hand-collect accounting measurement and disclosure compliance data. To mitigate possible sample selection issues, we also collect compliance data from the group financial reports of German early adopters, so as to replicate our analysis by comparing the Italian firms with

a matched sample of 153 German firms (116 of which early adopters).[6] Details on the instrument used to collect the data are presented in Appendix 2.

[Table 3 about here]

Table 3 presents results on accounting measurement compliance in Panel A and disclosure compliance in Panel B. In Panel A, we report stated accounting measurement compliance separately for German late adopters, German matched firms, and Italian firms for the following IFRS standards: IFRS 2 (Share-based Payment), IAS 11 (Construction Contracts), IAS 17 (Leases), IAS 19 (Employee Benefits), IAS 36 (Impairment of Assets), IAS 38 (Intangible Assets), and IAS 39 (Financial Instruments: Recognition and Measurement). While we generally find the observed accounting measurement compliance to be similarly high across countries, we find significant differences with respect to IAS 38 and IAS 39, with German late adopters showing lower compliance than Italian firms.[7]

In Panel B, we report disclosure compliance scores separately for German late adopters, German matched firms, and Italian firms for the same standards as in Panel A as well as for IAS 33 (Earnings Per Share). Comparing the disclosure compliance scores with the accounting measurement compliance scores, we find that disclosure compliance is significantly lower than measurement compliance (this finding is in line with prior

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[6] To match German firms to similar Italian firms, we use a propensity score matching procedure and the following logit model:

$$p(ITALY_{t,i}=1) = p(\sum_{j=1}^{9}\alpha_j INDDUMMY_i + \beta_1 LOG(MKTCAP_{t,i}) + \beta_2 ROA_{t,i} + \beta_3 RETURN_{t,i} + \beta_4 CFO_{t,i}) \cdot$$

[7] Looking more closely at the detailed response data (not tabulated), we find that German firms tend a) to expense development costs, and b) not to recognize the fair value of derivative financial instruments on their balance sheets. Because these non-complying measurement choices are both in line with local German GAAP, we conclude that some of the German late adopters "bend" IFRS rules towards local German GAAP. We find a similar result for the German matched sample, although with a somewhat lower level of significance. In contrast, the German matched firms exhibit a higher level of IFRS 2 measurement compliance than Italian firms.

literature; see, e.g., Street and Gray [2001]). Further, we find much more cross-country variance in disclosure compliance. This variance does not lean towards one country, however: Italian firms exhibit significantly higher disclosure compliance for IFRS 2, IAS 33, IAS 36 and IAS 39, while German late adopters score significantly better for IAS 17 and IAS 38. A comparison with the German matched sample provides similar results except that Italian firms' higher scores for IAS 33 and IAS 36 are not significant and the German matched firms show higher disclosure compliance for IAS 11.

Prior literature explains the overall lower level of disclosure compliance by the (perceived) lower level of disclosure enforcement by auditors and regulatory bodies (Hope [2003]). The results on disclosure compliance for IAS 38, which indicate that German firms display greater compliance than Italian firms, may be due to German firms providing additional disclosures to compensate for lower measurement compliance (given their reluctance to recognize development costs). Other observed cross-country differences in disclosure behavior might be explained by the tendency of firms to stick to established disclosure behavior based on local GAAP. Also, when comparing German late adopters with Italian late adopters, one has to bear in mind that German firms faced lower transaction costs for early IFRS adoption. This implies that German late adopters more actively self-selected into not adopting IFRS early compared to Italian firms. As IFRS has been argued to demand an increase in disclosures relative to most local GAAPs (Daske et al. [2011]), we can expect our sample of German firms to be more reluctant to comply with disclosure regulations than an average German public firm. Evidence from the matched sample comparison is consistent with this view.

We conclude from the 2006 IFRS compliance tests that, even under harmonized accounting standards, accounting information continues to be heterogeneous. In particular, we identify some variation in accounting measurement compliance, as well as more pronounced variation in disclosure compliance, across countries. When we examine the standard deviation of our compliance figures, we additionally find that disclosure compliance exhibits significant *within*-country dispersion.

To investigate the within-country variance of disclosure compliance, our last test examines the determinants of disclosure compliance within each country. We perform both a within-country and a pooled-sample analysis on our German and Italian data. To construct our dependent variable, DSCORE, we average all disclosure scores for the 252 German (136 late adopters and the 116 early adopters studied in the prior analysis) and 153 Italian firms. We estimate country sample and interacted pooled sample versions of the following disclosure compliance determinant model:[8]

$$
\begin{aligned}
DSCORE_i = & \sum_{j=1}^{9} \alpha_j INDDUMMY_j + \beta_1 LOG(TOTASS_i) + \beta_2 ROA_i + \beta_3 MTB_i + \\
& \beta_4 FREQ\_LOSSES_i + \beta_5 INDEP\_BOARD\_D_i + \beta_6 INSTOWN_i + \\
& \beta_7 GOVOWN_i + \beta_8 FAMBUS_i + \beta_9 BIG4_i + \beta_{10} LD\_REGION_i + \beta_{11} EARLY + \varepsilon_i
\end{aligned} \quad (7)
$$

where DSCORE is average disclosure compliance, calculated using the instrument presented in Appendix 2. The subscripts *i*, and *j* denote firm, and industry. INDDUMMY is a set of first-digit SIC industry dummy variables. TOTASS is total assets. ROA, MTB, and FREQ_LOSSES are as defined before. %INDEP_BOARD_D is a dummy variable for board independence that for the Italian sample is coded one if the

[8] To address possible omitted variable concerns, we also estimated alternative versions of this model that included leverage, index membership, number of years since the initial public offering, seasoned public offerings (SPO), American Depositary Receipts (ADR), foreign listing, foreign sales, and analyst following as additional independent variables. These additional variables do not change our inferences.

number of independent directors divided by the total number of board members is above the mean and zero otherwise, and for the German sample is coded one if the head of the supervisory board was not the former chief executive officer of the respective firm and zero otherwise. INSTOWN is a dummy variable indicating significant institutional ownership (above 2%) in the firm. GOVOWN is a dummy variable indicating whether an Italian governmental body has a stake in the firm. FAMBUS is a dummy variable indicating whether the firm is controlled by a managing family. BIG4 is a dummy variable indicating whether the firm's financial statements have been audited by a dominant audit supplier (Deloitte, Ernst & Young, KPMG, or PWC). LD_REGION is a dummy variable indicating whether the respective German (Italian firm) is domiciled in the eastern regions of Germany (southern regions of Italy). EARLY is a dummy variable indicating whether the firm is an early or late IFRS adopter.

Descriptive statistics for the potential determinants of differences in disclosure compliance as well as the control variables are presented in Panel A of Table 4. Panel B of Table 4 reports correlations among the dependent and independent variables and thus provides univariate results. Disclosure compliance for Italian firms is significantly positively related with size, growth, audit quality, profitability, institutional ownership and southern origin. We take particular interest in the result for the geographic origin dummy. The Italian business environment has been documented to be geographically diverse (Gerschenkron [1955], Eckaus [1961], Terrasi [1999]). In general, the informal institutions that shape the governance environment of Italian society are very different between the northern, central, and southern regions of Italy. Especially in the South, informal governance institutions are influential and can be expected to reduce the demand

for formal disclosure compliance. For the German sample, disclosure compliance is significantly positively associated with size, independent board members, audit quality, and early IFRS adoption.

The correlations between dependent variables are generally low to moderate with the exemption of FAMBUS and GOVOWN, which have a correlation of -0.490.

[Table 4 about here]

Table 4, Panel C presents the multivariate results of model (5). Taken together, these results clearly indicate that both in Germany and Italy, firm-level incentives influence disclosure compliance. Evidence from the pooled-sample analysis shows that the coefficients on size, profitability, growth, and government ownership are significantly more pronounced for Italy than for Germany. This result indicates that larger, growing, and more profitable firms generally tend to provide more forthcoming disclosures in Italy than in Germany while the interplay between governmental ownership in firms and their disclosure compliance seems to be more pronounced in Italy than in Germany. The impact of high quality auditing on disclosure compliance also appears to be more pronounced in Italy, possibly because Italian audit firms tend to be more heterogeneous in terms of quality than German firms (Ashbaugh and Warfield [2003]). While for Italy we find a robust negative impact of the geographical region on disclosure compliance, we do not find a similar effect for Germany although, subsequent to reunification, a lack of convergence between the less developed East and the more industrialized West led to considerable disparity in the levels of income, investment, and productivity (Boltho et al. [1999]). We view this finding as indicating that it is not the overall economic situation of a less developed region that drives differences in disclosure compliance; rather, the

relationship-driven institutions that Southern Italy has developed over centuries (and that are unavailable in Eastern Germany) act as an alternative communication device for corporations. Not surprisingly, German firms show overall higher disclosure compliance than Italian firms. Based on the insight from the geographical region results, this finding might be driven by different cultural attitudes towards compliance in general. Our findings are also in line with the common-held belief that Italian firms tend to "label adopt" IFRS without any serious commitment to transparency because, in a strong insider system like Italy, information asymmetries are mainly resolved via means other than publicly disclosing accounting information. This finding is consistent with the argument supported by Daske et al. [2011]. Finally, our results show that early adopters provide better disclosure compliance than late adopters. This result might be driven by learning curve effects or by omitted explanatory variables that influence the IFRS adoption decision as well as the incentives for disclosure compliance.

Taken together, the tests indicate that compliance might be an important moderating variable for the comparability effect of mandatory IFRS adoption. Based on the analysis presented in this section, we expect large firms with dominant auditors and independent boards to be more compliant. The final series of tests will investigate whether the compliance determinants identified in this section moderate the comparability effect of mandatory IFRS adoption.

3.5 THE COMPARABILITY EFFECT OF MANDATORY IFRS ADOPTION: THE MODERATING ROLE OF COMPLIANCE INCENTIVES

In order to directly test for the impact of compliance on the comparability effect of mandatory IFRS adoption, one would have to obtain firm-level data on compliance for

the broad international sample used in the first series of tests. As this seems prohibitively costly, we use the results of the first test to investigate a potential link of compliance determinants to the comparability effect.

To do so, we focus on size and auditor type, as we have access to board data only for a very limited fraction of our sample. In essence, we are breaking up the observations from the first series of tests in smaller bins that are constructed on period, country-pairs, industry, and our moderating variable of interest. This, at the same time, increases (because of the finer bins) and decreases (newly constructed bins fall below the size threshold of three observations per bin) the number of observations.

[Table 5 about here]

We use size (measured by market capitalization) as our first moderating variable of interest. We country-rank each firm into size quintiles (from 0 to 4). Then, we add the ranks of both firms within a given match. This leads to rank scores from 0 (both firms very small) to 8 (both firms very large). We divide each sum by eight, so that our final moderating variable SIZE is distributed between 0 and 1. We then fully interact our base models (5) and (6) by SIZE.[9]

Panel A of Table 5 details the results of the tests for the pre IFRS period. It seems important to note that overall larger firms seem to exhibit higher levels of comparability. Also, larger firms seem to show a small effect of the non-GAAP institutional environment on financial accounting comparability. These findings are in line with prior results (Lang et al. [2010]) indicating that larger more visible firms are less affected by

[9] For all the analyses presented in this section we conduct robustness checks (untabulated) where we also include additional control variables (mean size, mean book-to-market, standard deviation of earnings and cash flows) into our modified versions of models (5) and (6). For model (6), we use changes instead of levels. Our inferences remain unchanged.

national infrastructures and become more comparable with their international peers. Finally, we see that larger firms consistently show a larger impact of local GAAP on financial accounting comparability. This finding is consistent with larger firms being more compliant to GAAP on average and thus with GAAP differences across countries having a larger impact on financial accounting comparability for larger firms.

Panel B reports the results of the difference-in-difference-in-differences test for the effect of IFRS adoption. We focus our discussion on the impact of IFRS_EFFECT. As can be assessed from the interaction of IFRS_EFFECT with SIZE, the effect of mandatory IFRS adoption on comparability seems to get completely moderated by size: The larger the respective firm, the more pronounced the IFRS effect. The relevant coefficient has the predicted sign for each of the four dependent variables (Δ(DKVCOMP), Δ(R_DKVCOMP), Δ(CFCOMP), and Δ(R_CFCOMP)) and significantly so in two out of the four cases (Δ(CFCOMP) and Δ(R_CFCOMP)). Based on this analysis we conclude that the comparability effect of IFRS adoption seems to be more pronounced for relatively larger firms, which have higher incentives for compliance. The results for the Wald-test that tests for the combined significance of the main effect IFRS_EFFECT together with the interaction effect IFRS_EFFECT*SIZE indicate that, generally, the firm-matches in the group of the largest firms experience a significantly positive IFRS adoption effect on comparability.

We repeat the analysis with our second compliance incentive: being audited by a large, dominant audit firm. Following established auditing literature (DeAngelo [1981]), we view Deloitte, Ernst & Young, KPMG, and PWC as dominant audit firms and assume that dominant auditors provide higher auditing quality. To the extent that dominant

auditors have an incentive to provide higher audit quality we expect firms with higher incentives for compliance to contract with dominant audit firms in equilibrium. To measure the impact of dominant auditors at the firm-peer level we construct an AUDIT score that takes the value of 0/0.5/1 if no/one/both firms in the match are being audited by a dominant auditor at the end of the sample period. We use this AUDIT variable to fully interact the models (5) and (6).

[Table 6 about here]

Table 6 presents the results. Similar to the results for SIZE, we find that financial accounting comparability is generally larger for firms with dominant auditors. Also, we find weak evidence that for firm pairs with dominant auditors the effect of GAAP proximity on financial accounting comparability is stronger. For all dependent variables the relevant coefficient for the interaction of AUDIT and GAAP_PROX is positive, but significantly so only in one case (R_CFCOMP). Generally, this confirms our expectations that firms with dominant auditors act more alike in terms of financial reporting and are more compliant to their respective GAAP environments, strengthening the impact of GAAP proximity on comparability.

Panel B of Table 6 reports the difference-in-difference-in-differences analysis. We find clear evidence consistent with dominant auditors moderating the effect of mandatory IFRS adoption on comparability. Firms with dominant auditors seem to have a relatively larger effect of mandatory IFRS adoption on comparability.

Finally, we combine SIZE and AUDIT to a joint measure for compliance incentives by adding the ranks (0 to 8) and (0 to 2) and by standardizing it on a 0 to 1 interval. We

label this variable as COMPINC and use it as a moderating variable to the models (5) and (6). Results of the analysis are presented in Table 7.

[Table 7 about here]

The findings of the analysis confirm the results of the first two tests. First, firms with larger compliance incentives consistently show higher levels of financial accounting comparability. Second, compliance incentives limit the impact of local institutional environments on comparability. Third, compliance incentives strengthen the impact of GAAP proximity on the financial accounting comparability of firms. Finally, compliance incentives moderate the treatment effect of mandatory IFRS adoption on comparability: Firms with larger compliance incentives experience larger comparability effects.

3.6 ADDITIONAL ANALYSES

In order to verify the robustness of our findings and to shed some light on the implications of comparability, we conduct a set of additional analyses (results are not tabulated but available upon request). First, we verify that our results are not due to sample composition by repeating our main analyses for two different samples. The first sample contains all firms of the sample explained in Table 1 but excludes observations from the U.S., Japan, and the U.K.. The second sample contains a maximum of 100 firms for each country. If a country has more than 100 firms in the sample of Table 1, 100 firms are randomly chosen.

We find qualitatively very similar results for both alternative samples. For the second sample the results are somewhat weaker, most likely because the reduced sample size compared to the sample detailed in Table 1 (20,840 instead of 78,784 firm-year

observations). As we are drawing the same main inferences (marginal overall comparability effect and moderating effect of compliance incentives on the comparability effect) from our two alternative samples, we conclude that our main findings are not an artifact of our sample composition.

In a next step we try to use alternative ways to identify a comparability effect of mandatory IFRS adoption. While we already use three different metrics in our main analyses (the return-based DeFranco et al. [2011] measure, our cash flow-based measure, and accounting compliance as assessed by hand-collected data) it might still be that we fail to document a robust overall comparability effect of mandatory IFRS adoption because of the noise inherent in our comparability measures. We therefore assess the change of the cross-sectional variance of financial statement line items and earnings attributes (unexpected accruals, conservatism, persistence, predictability, smoothness, timeliness, and value relevance) pre and post mandatory IFRS adoption for our firm-years detailed in Table 1. We measure the variance effect within size-industry bins of firms from different countries. Since an observed decrease in variance could be caused by increased accounting comparability as well as by decreased discriminatory power of accounting information, we view this approach as a second-best method to identify comparability effects.

Overall, we find no consistent decrease in variance of earnings attributes that could be linked to IFRS adoption. Also, we find no substantial effect of mandatory IFRS adoption on the cross-sectional variance of financial statement line items, with one note-worthy exemption: The mandatory adoption of IFRS seems to have a significant impact on the cross-sectional variance of other provisions and, to a lesser extent, to the cross-

sectional variance of intangible assets (excluding goodwill). On the other hand, the mandatory adoption of IFRS seems to have an increasing impact on the cross-sectional variance of reported goodwill figures. We conclude from this analysis that the overall impact of mandatory IFRS adoption on the cross-country variance of reported key accounting information is modest.

In a last series of tests, we reassess the relevance of accounting comparability for capital markets. Although this is not the main focus of our study, it is interesting to see whether our comparability measures are consistently linked to measures like forecast precision, forecast dispersion and bid-ask spreads. This issue is being investigated by De Franco et al. [2011] for the U.S. and by Lang et al. [2010] for international data. We repeat their analysis with our metrics to verify that our comparability measures are also related to the above constructs. We find our measures to be consistently positively linked to forecast precision, negatively linked to forecast dispersion and, but to a lesser extent, negatively related to bid-ask spreads. We view these findings as an additional verification test for our comparability metrics. Also, they are consistent with accounting comparability having (desirable) capital market consequences.

4. Conclusion

In this study we examine whether mandatory adoption of IFRS leads to an increase in cross-country comparability of accounting information. Using a broad cross-country sample of 2,155 mandatory IFRS adopting firms, our analyses using two comparability metrics based on De Franco et al. [2011] indicate no clear overall impact of mandatory IFRS adoption on the comparability of financial accounting information across countries. In a second set of tests we explore possible explanations for our limited findings on the

comparability effects of mandatory IFRS adoption. We use a sample of hand-collected IFRS compliance data from German and Italian firms to document that even under harmonized accounting standards, firm-, region-, and country-level incentives lead to heterogeneous compliance and thus heterogeneous financial accounting information. As a third step, we use the identified compliance incentives (captured by size and auditor type) to refine our analysis based on the broad cross-country sample. We find that high compliance incentives: (a) increase the overall comparability of financial accounting information, (b) limit the impact of the national infrastructures on comparability, and (c) moderate the treatment effect of mandatory IFRS adoption on financial accounting compliance: Firms with higher compliance incentives experience systematically larger IFRS comparability effects.

We conclude from our analysis that the effect of IFRS on comparability can be expected to be marginal on average and centered on firms that have high incentives for compliance. From an economic perspective, this is consistent with the interplay between incentives and standards, which has been documented by prior literature, and casts some doubt as to whether *de jure* harmonization can be expected to generate (supposedly socially desirable) comparability effects. On the other hand, results on potential positive capital market consequences of an IFRS comparability effect (Wang [2010], Brochet et al. [2011], DeFond et al. [2011]) tend to be based on firms that are in the center of the attention of (international) investors. For these firms, compliance incentives can assumed to be fairly high.

Our results are subject to some important caveats. First, they are based on a quasi-experiment: our "treatments" countries and IFRS adoption are not randomly assigned to

our research subjects. While we try to address this concern by using a difference-in-difference-in-differences approach and by constructing matched samples where feasible, these procedures nonetheless are likely to generate sub-optimal results. Second, our measurement constructs are noisy and thus capture our economic dependent variable of interest (financial accounting information and its cross-sectional comparability) with error. To improve the reliability of our findings, we try to increase the power of our statistical tests by conducting a battery of analyses designed to capture different aspects of our dependent variable.

Third, with respect to external validity, we try to make our results as general as possible by drawing from a large sample of countries for our first and third test. However, this large sample evidence might give rise to internal validity concerns. While we try to address these concerns by conducting an additional test that uses high quality hand-collected data, additional research using institutional expertise to investigate the effect of IFRS adoption on comparability in other jurisdictions using similar data seems warranted.

Finally, it is important to note that comparability of financial accounting information as defined in this paper is neither good nor bad *per se*, and thus this paper does not take a stand on whether IRFS adoption improves the quality of financial accounting. Such a question is likely to be difficult to tackle absent an unambiguous measure of "financial accounting quality."

APPENDIX 1: ADDITIONAL DETAILS ON SAMPLE CONSTRUCTION AND TEST DESIGN

The concept of comparability is based on a comparison of firm-pairs. In order to assess the treatment effect of IFRS adoption on comparability we need to compare sets of firms whose level of comparability is likely to be affected by IFRS adoption. We attempt to achieve this goal by comparing firms within the same SIC two-digit industry across countries. Using the DKVCOMP and CFCOMP measures constructed as described in the research design section, we observe the average comparability of firms from one country (e.g., the U.S.) with firms from another country (e.g., the U.K.), separately for each two-digit industry group with sufficient data and for the pre and post IFRS regime change period. This procedure yields us a dataset with the following structure:

COUNTRY	PCOUNTRY	IND	PERIOD	GAAP_PROX	DKVCOMP	CFCOMP
U.K.	U.S.	20	PRE	-0.167	-0.042	-0.071
U.K.	U.S.	20	POST	-0.222	-0.046	-0.070
U.K.	Germany	20	PRE	-0.556	-0.056	-0.111
U.K.	Germany	20	POST	0.000	-0.058	-0.094
...	...	...	...	...	...	...

COUNTRY and PCOUNTRY indicate the two countries that are being compared, IND stands for the two-digit SIC code of the respective firms. PERIOD indicates the period pre (2001-2004) and post (2005-2008) IFRS adoption. GAAP_PROX captures the country-pair GAAP distance by summing up differences between two countries based on the GAAP differences measure presented in Bae et al. [2008: Table 1]. The variable is multiplied by minus one and recoded to be distributed between -1 and 0 so that larger (less negative) values indicate more similar accounting regimes. DKVCOMP and CFCOMP are our comparability measures. For both measures, larger (less negative) values indicate more comparable financial accounting information.

These example data show that the comparability of U.K. firms with U.S. firms can be expected to be affected by the adoption of IFRS in the U.K.: After IFRS adoption the accounting regime in the U.K. becomes more dissimilar to the accounting regime of the U.S. while becoming identical with the accounting regime of Germany. In order to capture this relation, our main treatment variable is the change of GAAP_PROX between the 2004 and 2008 periods (IFRS_EFFECT). While this variable is zero for country pairs where neither country has adopted IFRS (our control group), it is different from zero whenever at least one country has adopted IFRS (our treatment group).

As stated in the research design section, our tests are based on the following change analysis:

$$\Delta(COMPM_{ci,cj,k}) = \sum_{ci} \delta_{ci} COUNTRY_{ci} + \sum_{cj} \delta_{cj} PCOUNTRY_{cj} + \sum_{k} \phi_k IND_k + \gamma_1 SMCTRY_{ci,cj} + \gamma_2 IFRS\_EFFECT_{ci,cj} + \varepsilon_{ci,cj,k} \quad \text{(A1)}$$

Since the according samples are organized by country-country-industry, we can use country-fixed effects for both country dimensions as well as industry-fixed effects in our regressions. The country-level fixed effects allow us to effectively control for country-level institutions that might affect the overall rigidness of a country's accounting regime (like enforcement, efficiency of the auditing process, etc.). Using IFRS_EFFECT as our treatment enhances the power of our tests compared to a traditional difference-in-differences setting where the treatment is modeled by a binary state variable. Conceptually, our analysis constitutes a "difference-in-difference-in-differences" (DDD) approach as we are testing for systematic cross-sectional differences in the magnitude of the IFRS treatment effect (Bertrand et al. [2004]).

APPENDIX 2: INSTRUMENT FOR IFRS COMPLIANCE TEST

IFRS 2	Applicability	Does the entity utilize share based payments?
	Measurement compliance	Does the entity measure equity instruments at the fair value of goods or services received?
	Disclosure compliance	Is there a general description of the nature and extent of share-based payment arrangements that existed during the period?
		Is there a description of how the fair value of the goods or services received, or the fair value of the equity instruments granted, during the period was determined?
		Does the entity provide detailed information about the effect of share-based payment transactions on the entity's profit or loss for the period and on its financial position?
IAS 11	Applicability	Does the entity have construction contracts?
	Measurement Compliance	Does the entity provide initial recognition / subsequent measurement according to the percentage of completion method?
	Disclosure compliance	Does the entity provide information about the amount of contract revenue recognized?
		Does the entity provide information about the method used to determine revenue?
		Does the entity provide information about the method used to determine stage of completion?
IAS 17	Applicability	Does the entity utilize lease contracts?
	Measurement compliance	Are finance leases recorded as an asset and a liability at the lower of the fair value of the asset and the present value of the minimum lease payments?
	Disclosure compliance	Is the carrying amount of asset disclosed?
		Does the entity provide a reconciliation between total minimum lease payments and their present value?
		Does the entity provide information about the contingent rent recognized as an expense?
IAS 19	Applicability	Is the standard applicable?
	Measurement compliance	Are post employment benefits recognized as the net present value of the future final obligation (actuarial calculation)?
	Disclosure compliance	Does the entity provide a general description of the post employment benefits plan?
		Does the entity provide a description of the methods utilized to calculate any actuarial gain or losses?
		Does the entity provide a reconciliation between the actual and the booked pension liability?
		Does the entity provide a reconciliation between the beginning of the period and the end of the period value of the obligation?

(APPENDIX 2 CONTINUED)

IAS 33	Applicability	Is the standard applicable?
	Disclosure compliance	Does the entity disclose basic EPS?
		Does the entity disclose diluted EPS?
		Does the entity disclose the amounts used as the numerators in calculating basic and diluted EPS, and a reconciliation of those amounts to profit or loss attributable to the parent entity for the period?
		Does the entity disclose the weighted average number of ordinary shares used as the denominator in calculating basic and diluted EPS, and a reconciliation of these denominators to each other?
IAS 36	Applicability	Is the standard applicable?
	Measurement compliance	Does the entity calculate the recoverable amount as value in use or fair value less cost to sell?
		Does the entity perform a yearly impairment test for goodwill (if any)?
	Disclosure compliance	If recoverable amount is value in use, is the basis for determining value in use disclosed (cash flow projections, discount rate, etc.)?
		If recoverable amount is fair value less costs to sell, is the basis for determining fair value disclosed?
		If the recoverable amount is not determined for each individual asset, does the entity provide information about cash generating units?
IAS 38	Applicability	Does the entity present intangible assets in the balance sheet?
	Measurement compliance	Does the entity capitalize any of research costs, start-up costs, advertising costs?
		Does the entity expense internally generated intangible assets?
	Disclosure compliance	Is the useful life or amortization rate disclosed?
		Is the amortization method disclosed?
		Does the entity provide a reconciliation of the carrying amount at the beginning and the end of the period?
IAS 39	Applicability	Is the standard applicable?
	Measurement compliance	Is fair value the initial recognition measurement basis for financial assets?
		Is amortized cost the measurement basis for held to maturity investments?
		Is fair value to equity the measurement basis for available for sale financial assets?
		Is fair value to profit and loss the measurement basis for held for trading financial assets?
		Does the entity recognize derivatives on the balance sheet?
	Disclosure compliance	Are methods and assumptions used in estimating fair values disclosed?
		Does the entity provide a description of the enterprise's financial risk management objectives and policies?
		Does the entity provide for each category of hedge (if any): A description of the hedge; which financial instruments are designated as hedging instruments; and the nature of the risks being hedged?

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TABLE 1

Sample Selection and Descriptive Statistics

This Table reports the base sample and descriptive statistics for our dependent and independent variables. The balanced sample of firm-year observations that is used to construct the comparability metrics is presented in Panel A. Panel B reports descriptive statistics for the main variables of interest. In Panel C Pearson (Spearman) correlations are above (below) the diagonal. Significant correlations at the 1% (two-sided) appear in bold print. DKVCOMP is a comparability measure based on De Franco et al. [2011], where firm-to-firm comparability is assessed by the similarity of firm-level earnings on return regressions. CFCOMP is a similar construct, where firm-to-firm comparability is assessed by the similarity of firm-level earnings on cash flow regressions. R_(c) indicates the ranked version of our measurement c. The calculation of both metrics is explained in detail in the paper. Variables are averaged at the country, peer country, and industry level. SMCTRY is a binary variable taking the value of one if country and peer country are the same. GAAP_PROX measures the proximity between GAAP regimes, based on the data used by Bae et al. [2008].

Panel A: Sample Composition

IFRS Adopting Countries						Non-Adopting Countries					
	Pre 2005		Post 2005				Pre 2005		Post 2005		
Country	Frequency	Percent	Frequency	Percent	Total	Country	Frequency	Percent	Frequency	Percent	Total
Australia	1,380	0.16	1,380	0.16	2,760	Brazil	492	0.02	492	0.02	984
Denmark	244	0.03	244	0.03	488	Canada	1,408	0.05	1,408	0.05	2,816
Finland	324	0.04	324	0.04	648	Chile	424	0.01	424	0.01	848
France	1,344	0.16	1,344	0.16	2,688	China	548	0.02	548	0.02	1,096
Germany	456	0.05	456	0.05	912	India	824	0.03	824	0.03	1648
Greece	588	0.07	588	0.07	1,176	Indonesia	628	0.02	628	0.02	1,256
Italy	444	0.05	444	0.05	888	Japan	9,680	0.31	9,680	0.31	19,360
Netherlands	280	0.03	280	0.03	560	Malaysia	1,640	0.05	1,640	0.05	3280
Norway	240	0.03	240	0.03	480	Mexico	240	0.01	240	0.01	480
Philippines	340	0.04	340	0.04	680	Pakistan	232	0.01	232	0.01	464
South Africa	524	0.06	524	0.06	1,048	South Korea	2,108	0.07	2,108	0.07	4,216
Spain	260	0.03	260	0.03	520	Taiwan	1,416	0.05	1,416	0.05	2832
Sweden	616	0.07	616	0.07	1,232	Thailand	836	0.03	836	0.03	1,672
United Kingdom	1,580	0.18	1,580	0.18	3,160	Turkey	260	0.01	260	0.01	520
						United States	10,036	0.33	10,036	0.33	20,072
Total	8,620	1.00	8,620	1.00	17,240	Total	30,772	1.00	30,772	1.00	61,544

TABLE 1 - *Continued*

Panel B: Descriptive Statistics

Variable	N	Mean	SD	Min	25%	Median	75%	Max
DKVCOMP	16,816	-0.187	0.125	-0.681	-0.243	-0.158	-0.097	-0.026
R_DKVCOMP	16,816	-0.517	0.145	-0.926	-0.598	-0.504	-0.424	-0.187
CFCOMP	16,816	-0.074	0.043	-0.271	-0.091	-0.065	-0.045	-0.016
R_CFCOMP	16,816	-0.517	0.122	-0.885	-0.584	-0.510	-0.443	-0.224
SMCTRY	16,816	0.033	0.178	0.000	0.000	0.000	0.000	1.000
GAAP_PROX	16,816	-0.470	0.192	0.000	-0.333	-0.444	-0.611	-1.000

Panel C: Correlations

	A	B	C	D	E	F
A: DKVCOMP		**0.588**	**0.305**	**0.166**	**0.023**	**0.015**
B: R_DKVCOMP	**0.604**		**0.173**	**0.286**	**0.051**	**0.048**
C: CFCOMP	**0.357**	**0.202**		**0.468**	**0.028**	**-0.041**
D: R_CFCOMP	**0.184**	**0.275**	**0.554**		**0.060**	0.005
E: SMCNTRY	**0.024**	**0.051**	**0.036**	**0.054**		**0.452**
F: GAAP_PROX	0.009	**0.040**	**-0.049**	-0.001	**0.310**	

TABLE 2

Comparability Tests

This Table reports the effects of mandatory IFRS adoption on the comparability of financial accounting information. DKVCOMP is a comparability measure based on De Franco et al. [2011], where firm-to-firm comparability is assessed by the similarity of firm-level earnings on return regressions. CFCOMP is a similar construct, where firm-to-firm comparability is assessed by the similarity of firm-level earnings on cash flow regressions. R_(c) indicates the ranked version of our measurement c. The calculation of both metrics is explained in detail in the paper. Variables are averaged at the country, peer country, and industry level. SMCTRY is a binary variable taking the value of one if country and peer country are the same. GAAP_PROX measures the proximity between GAAP regimes, based on the data used by Bae et al. [2008]. In Panel B, the dependent variable is the change in comparability measures relative to the pre IFRS period. IFRS_EFFECT is the change in GAAP_PROX caused by IFRS adoption. Robust standard errors clustered by country, peer country and industry are reported in parentheses below the coefficients. ***/**/* marks two-sided significance at the 1/5/10% level.

Panel A: Comparability Analysis Pre IFRS (N=16,816)

	Model (5)	Model (5)	Model (5)	Model (5)
Dependent Variable	DKVCOMP	R_DKVCOMP	CFCOMP	R_CFCOMP
Intercept	-0.102***	-0.684***	-0.123***	-0.665***
	(0.020)	(0.006)	(0.040)	(0.083)
SMCTRY	0.014***	0.042***	0.002	0.021***
	(0.005)	(0.006)	(0.002)	(0.005)
GAAP_PROX	0.003	0.013*	0.007***	0.030***
	(0.006)	(0.007)	(0.002)	(0.007)
Country fixed effects	Yes	Yes	Yes	Yes
Peer country fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
R^2	0.259	0.169	0.289	0.070

Panel B: Comparability Analysis IFRS Effect (N=16,411)

	Model (6)	Model (6)	Model (6)	Model (6)
Parameter	Δ(DKVCOMP)	Δ(R_DKVCOMP)	Δ(CFCOMP)	Δ(R_CFCOMP)
Intercept	0.025	0.115	0.029	0.076
	(0.028)	(0.149)	(0.025)	(0.144)
SMCTRY	-0.011**	-0.023***	0.000	0.000
	(0.005)	(0.006)	(0.002)	(0.005)
IFRS_EFFECT	-0.002	0.001	0.002	0.012*
	(0.005)	(0.007)	(0.002)	(0.007)
Country fixed effects	Yes	Yes	Yes	Yes
Peer country fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
R^2	0.201	0.086	0.090	0.026

TABLE 3

IFRS Compliance Tests

This Table reports average IFRS measurement and disclosure compliance scores (a value of one indicating full compliance) for the late adopters and matched German samples and for the Italian sample. Firms included in these samples are at least listed since 2004 and have their 2006 group financial reports available either on the respective investor relation section of the respective website or on the respective stock exchange website. The instrument utilized to evaluate the IFRS measurement and disclosure compliance is available in Appendix 2. SD stands for standard deviation. A t-test (Wilcoxon signed rank test) is used to test for differences in means (medians). ***/**/* marks two-sided significance at the 1/5/10% level.

Panel A: Accounting Measurement Compliance

Germany Late versus Italy

	Germany Late				Italy					
Standard	n	Mean	Median	SD	n	Mean	Median	SD	t-value	Z-score
IFRS 2	15	1.000	1.000	0.000	67	0.925	1.000	0.265	1.09	1.07
IAS 11	20	1.000	1.000	0.000	48	1.000	1.000	0.000	n/a	n/a
IAS 17	75	0.987	1.000	0.115	125	0.992	1.000	0.089	-0.37	-0.36
IAS 19	111	0.991	1.000	0.095	153	0.967	1.000	0.178	1.27	1.27
IAS 36	120	0.950	1.000	0.176	153	0.964	1.000	0.153	-0.70	-0.78
IAS 38	135	0.930	1.000	0.185	152	0.974	1.000	0.138	-2.30**	-2.81***
IAS 39	107	0.898	1.000	0.217	132	0.978	1.000	0.100	-3.77***	-3.90***

Germany Matched versus Italy

	Germany Matched				Italy					
Standard	n	Mean	Median	SD	n	Mean	Median	SD	t-value	Z-score
IFRS 2	51	1.000	1.000	0.000	67	0.925	1.000	0.265	2.01**	1.98**
IAS 11	29	1.000	1.000	0.000	48	1.000	1.000	0.000	n/a	n/a
IAS 17	90	1.000	1.000	0.000	125	0.992	1.000	0.089	0.85	0.84
IAS 19	110	0.991	1.000	0.095	153	0.967	1.000	0.178	1.26	1.26
IAS 36	140	0.979	1.000	0.118	153	0.964	1.000	0.153	0.90	0.92
IAS 38	151	0.950	1.000	0.161	152	0.974	1.000	0.138	-1.36	-1.83*
IAS 39	121	0.936	1.000	0.149	132	0.978	1.000	0.100	-2.61***	-2.70***

TABLE 3 - *Continued*

Panel B: Disclosure Compliance

Germany Late versus Italy

	Germany Late				Italy					
Standard	n	Mean	Median	SD	N	Mean	Median	SD	t-value	Z-score
IFRS 2	17	0.559	0.333	0.328	66	0.828	1.000	0.327	-3.03***	-3.23***
IAS 11	21	0.810	1.000	0.249	49	0.673	0.667	0.357	1.59	1.38
IAS 17	120	0.772	1.000	0.343	125	0.613	0.667	0.370	3.48***	3.67***
IAS 19	121	0.607	0.750	0.318	153	0.657	0.750	0.320	-1.27	-1.49
IAS 33	136	0.827	1.000	0.231	153	0.840	1.000	0.273	-0.42	-1.77*
IAS 36	105	0.324	0.333	0.334	152	0.471	0.333	0.403	-3.09***	-2.88***
IAS 38	135	0.877	1.000	0.240	153	0.741	1.000	0.332	3.93***	3.58***
IAS 39	107	0.460	0.500	0.305	131	0.691	1.000	0.384	-5.06***	-5.35***

Germany Matched versus Italy

	Germany Matched				Italy					
Standard	n	Mean	Median	SD	N	Mean	Median	SD	t-value	Z-score
IFRS 2	57	0.681	0.667	0.360	66	0.828	1.000	0.327	-2.37**	-2.66***
IAS 11	29	0.874	1.000	0.226	49	0.673	0.667	0.357	2.71***	2.62***
IAS 17	137	0.815	1.000	0.308	125	0.613	0.667	0.370	4.81***	4.83***
IAS 19	117	0.686	0.750	0.296	153	0.657	0.750	0.320	0.76	0.51
IAS 33	153	0.887	1.000	0.209	153	0.840	1.000	0.273	1.71*	0.76
IAS 36	125	0.517	0.667	0.418	152	0.471	0.333	0.403	0.93	0.81
IAS 38	151	0.929	1.000	0.183	153	0.741	1.000	0.332	6.13***	5.60***
IAS 39	122	0.633	0.500	0.351	131	0.691	1.000	0.384	-1.26	-1.73*

TABLE 4

Determinants of Disclosure Compliance

The 2006 German and Italian samples contain observations that fulfill the data requirements for estimating the models of Panel C. In Panel C, ITALY is a dummy variable coded one if the respective observation stems from an Italian firm and zero otherwise. DSCORE is average disclosure compliance, calculated using the instrument presented in Appendix 2. %INDEP_BOARD_D is a dummy variable for board independence that, for the Italian sample is coded one if the number of independent directors divided by the total number of board members is above the full sample mean and zero otherwise, and, for the German sample is coded one if the head of the supervisory board has not been the former chief executive officer of the respective firm and zero otherwise. INSTOWN is a dummy variable indicating significant institutional ownership (above 2%) in the firm. GOVOWN is a dummy variable indicating whether a governmental body has a stake in the respective firm. FAMBUS is a dummy variable indicating whether the respective firm is controlled by a managing family. BIG4 is a dummy variable indicating whether the financial statements of the respective firm have been audited by a dominant audit supplier (Deloitte, Ernst & Young, KPMG or PWC). LD_REGION is a dummy variable indicating whether the respective German (Italian) firm is domiciled in the eastern regions of Germany (southern regions of Italy). EARLY is a dummy variable indicating whether the firm is an early or a late adopter of IFRS. Robust standard errors clustered by industry are reported in parentheses below the coefficients. In Panel A, SD stands for Standard Deviation. In Panel B Pearson (Spearman) correlations are above (below) the diagonal. Bold typeset indicates two-sided significance below the 5 % level. The models of Panel C are estimated using ordinary least squares and industry fixed effects. Probabilities are two-sided.

Panel A: Descriptive Statistics

German 2006 Sample (n=252)

Variable	Mean	SD	25 %	Median	75 %
DSCORE	0.738	0.178	0.640	0.756	0.865
LOG(TOTASS)	12.060	2.037	10.704	11.816	13.037
ROA	0.020	0.137	-0.004	0.035	0.073
MTB	1.968	4.513	1.089	1.695	2.814
FREQ_LOSSES	0.342	0.334	0.000	0.200	0.600
INDEP_BOARD_D	0.591				
INSTOWN	0.361				
GOVOWN	0.048				
FAMBUS	0.194				
BIG4	0.563				
LD_REGION	0.067				
EARLY	0.460				

TABLE 4 – *Continued*

Italian 2006 Sample (n=153)

Variable	Mean	SD	25 %	Median	75 %
DSCORE	0.678	0.227	0.522	0.700	0.870
LOG(TOTASS)	13.089	1.801	11.807	12.817	14.225
ROA	0.016	0.067	-0.012	0.020	0.049
MTB	2.324	2.822	1.314	1.837	2.615
FREQ_LOSSES	0.344	0.371	0.000	0.200	0.600
INDEP_BOARD_D	0.392				
INSTOWN	0.386				
GOVOWN	0.137				
FAMBUS	0.601				
BIG4	0.863				
LD_REGION	0.033				

TABLE 4 - *Continued*

Panel B: Correlations

German 2006 Sample

	A	B	C	D	E	F	G	H	I	J	K	L
A: DSCORE		**0.328**	-0.068	-0.022	0.035	**0.259**	-0.044	0.060	-0.094	**0.293**	0.005	**0.424**
B: LOG(TOTASS)	**0.300**		**0.163**	0.082	**-0.436**	**0.185**	0.011	**0.284**	0.050	**0.321**	-0.085	0.084
C: ROA	-0.055	**0.140**		**0.166**	**-0.452**	-0.035	0.035	0.044	0.037	-0.045	-0.076	**-0.177**
D: MTB	0.100	**0.154**	**0.181**		-0.115	-0.042	0.050	0.019	-0.006	0.004	0.109	0.001
E: FREQ_LOSSES	0.023	**-0.459**	**-0.471**	-0.073		-0.016	-0.031	**-0.148**	**-0.161**	-0.065	0.121	**0.199**
F: INDEP_BOARD_D	**0.266**	**0.175**	0.032	0.116	-0.026		-0.030	0.072	-0.081	0.001	0.031	**0.169**
G: INSTOWN	-0.054	0.083	0.039	-0.043	-0.040	-0.030		**-0.129**	**-0.369**	**0.129**	-0.038	**-0.147**
H: GOVOWN	0.049	**0.233**	0.040	0.086	**-0.138**	0.072	**-0.129**		-0.063	0.122	-0.060	0.018
I: FAMBUS	-0.080	0.059	0.033	-0.047	**-0.172**	-0.081	**-0.369**	-0.063		-0.073	**0.148**	-0.051
J: BIG4	**0.300**	**0.308**	-0.041	0.119	-0.053	0.001	**0.129**	0.122	-0.073		0.045	**0.219**
K: LD_REGION	0.023	-0.098	-0.033	0.006	**0.143**	0.031	-0.038	-0.060	**0.148**	0.045		0.037
L: EARLY	**0.432**	0.026	-0.106	**0.147**	**0.185**	**0.169**	**-0.147**	0.018	-0.051	**0.219**	0.037	

Italian 2006 Sample

	A	B	C	D	E	F	G	H	I	J	K
A: DSCORE		**0.462**	**0.283**	0.112	**-0.227**	0.147	**0.244**	-0.042	0.071	**0.302**	**-0.315**
B: LOG(TOTASS)	**0.439**		**0.222**	-0.114	**-0.412**	0.072	**0.204**	**0.324**	-0.127	**0.325**	-0.122
C: ROA	**0.284**	**0.311**		0.040	**-0.610**	-0.157	**0.206**	0.065	0.153	0.127	-0.103
D: MTB	**0.190**	0.036	**0.206**		0.046	0.145	**0.169**	-0.012	-0.104	0.019	-0.015
E: FREQ_LOSSES	**-0.199**	**-0.406**	**-0.714**	-0.115		0.035	-0.119	**-0.268**	-0.138	**-0.266**	0.147
F: INDEP_BOARD_D	0.141	0.044	-0.089	0.139	0.036		0.106	0.146	-0.057	-0.108	0.003
G: INSTOWN	**0.239**	**0.228**	**0.208**	**0.260**	-0.122	0.106		-0.004	-0.041	**0.160**	-0.070
H: GOVOWN	-0.040	**0.264**	0.118	0.008	**-0.269**	0.146	-0.004		**-0.490**	**0.159**	0.034
I: FAMBUS	0.085	-0.079	0.135	-0.094	-0.148	-0.057	-0.041	**-0.490**		-0.092	-0.076
J: BIG4	**0.281**	**0.343**	**0.161**	0.034	**-0.236**	-0.108	**0.160**	**0.159**	-0.092		-0.034
K: LD_REGION	**-0.270**	-0.100	-0.098	-0.030	0.133	0.003	-0.070	0.034	-0.076	-0.034	

TABLE 4 - *Continued*

Panel C: Multivariate Analyses

		DSCORE		
		Model (7)		
Parameter	Predicted Sign	*German Sample*	*Italian Sample*	*Pooled Sample*
ITALY				-0.531***
				(0.176)
LOG(TOTASS)	+	0.027***	0.056***	0.028***
		(0.006)	(0.007)	(0.005)
ITALY*LOG(TOTASS)				0.026**
				(0.010)
ROA	+/-	0.005	0.801***	0.009
		(0.081)	(0.215)	(0.080)
ITALY*ROA				0.795***
				(0.165)
MTB	+	-0.001	0.008**	-0.001
		(0.002)	(0.003)	(0.002)
ITALY*MTB				0.010*
				(0.005)
FREQ_LOSSES	+	0.053	0.090*	0.053
		(0.044)	(0.042)	(0.044)
ITALY*FREQ_LOSSES				0.036
				(0.078)
INDEP_BOARD_D	+	0.052**	0.083*	0.055***
		(0.010)	(0.040)	(0.009)
ITALY*INDEP_BOARD_D				0.031
				(0.044)
INSTOWN	+/-	-0.014	0.015	-0.019
		(0.019)	(0.047)	(0.019)
ITALY*INSTOWN				0.043
				(0.054)
GOVOWN	+/-	-0.041**	-0.055**	-0.019
		(0.012)	(0.022)	(0.016)
ITALY*GOVOWN				-0.076*
				(0.037)
FAMBUS	-	-0.034	0.007	-0.039
		(0.045)	(0.012)	(0.047)
ITALY*FAMBUS				0.054
				(0.057)
BIG4	+	0.047**	0.140**	0.048***
		(0.013)	(0.042)	(0.013)
ITALY*BIG4				0.088*
				(0.041)
LD_REGION	-	0.018	-0.278***	0.021
		(0.045)	(0.069)	(0.046)
ITALY*LD_REGION				-0.306***
				(0.056)
EARLY	+	0.104***		0.111***
		(0.020)		(0.022)
Industry fixed effects		Yes	Yes	Yes
n (R^2)		252 (0.350)	153 (0.466)	405 (0.410)

TABLE 5

Comparability Analysis: Moderated by Size

This Table reports the effects of mandatory IFRS adoption on the comparability of financial accounting information, moderated by the size of compared firms. DKVCOMP is a comparability measure based on De Franco et al. [2011], where firm-to-firm comparability is assessed by the similarity of firm-level earnings on return regressions. CFCOMP is a similar construct, where firm-to-firm comparability is assessed by the similarity of firm-level earnings on cash flow regressions. R_(c) indicates the ranked version of our measurement c. The calculation of both metrics is explained in detail in the paper. Variables are averaged at the country, peer country, and industry level. SMCTRY is a binary variable taking the value of one if country and peer country are the same. GAAP_PROX measures the proximity between GAAP regimes, based on the data used by Bae et al. [2008]. SIZE is defined as the sum of country-level size quintiles for matched firms, where size is measured by lagged market capitalization. SIZE is scaled to be distributed between 0 and 1. The estimated models are interacted versions of models (5) and (6). In Panel B, the dependent variable is the change in comparability measures relative to the pre IFRS period. IFRS_EFFECT is the change in GAAP_PROX caused by IFRS adoption. Robust standard errors clustered by country, peer country and industry are reported in parentheses below the coefficients. p-value total IFRS_EFFECT reports the two-sided p-value of a Wald F-test that tests whether the sum of the coefficients for IFRS_EFFECT and IFRS_EFFECT*SIZE is significantly different from zero, effectively testing whether there is a significant comparability effect of IFRS adoption for the firm-pairs in the largest size bin. ***/**/* marks two-sided significance at the 1/5/10% level.

Panel A: Comparability Analysis Pre IFRS (N=61,087)

	Model (5*)	Model (5*)	Model (5*)	Model (5*)
Dependent Variable	DKVCOMP	R_DKVCOMP	CFCOMP	R_CFCOMP
Intercept	-0.200***	-0.616***	-0.065***	-0.757***
	(0.007)	(0.007)	(0.002)	(0.006)
SMCTRY	0.041***	0.049***	0.010***	0.051***
	(0.009)	(0.009)	(0.003)	(0.008)
GAAP_PROX	-0.037***	-0.006	-0.006	-0.014
	(0.010)	(0.011)	(0.004)	(0.010)
SIZE	0.238***	0.184***	0.043***	0.099***
	(0.007)	(0.008)	(0.003)	(0.007)
SMCTRY * SIZE	-0.055***	-0.006	-0.012***	-0.049***
	(0.013)	(0.014)	(0.004)	(0.012)
GAAP_PROX *SIZE	0.078***	0.020	0.022***	0.089***
	(0.013)	(0.017)	(0.005)	(0.015)
Country fixed effects	Yes	Yes	Yes	Yes
Peer country fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
R^2	0.347	0.208	0.278	0.063

TABLE 5 – *Continued*

Panel B: Comparability Analysis IFRS Effect (N=57,948)

	Model (6*)	Model (6*)	Model (6*)	Model (6*)
Dependent Variable	Δ(DKVCOMP)	Δ(R_DKVCOMP)	Δ(CFCOMP)	Δ(R_CFCOMP)
Intercept	0.102***	0.031***	-0.019***	0.014**
	(0.006)	(0.008)	(0.003)	(0.007)
SMCTRY	-0.018**	-0.025***	0.001	0.001
	(0.008)	(0.009)	(0.002)	(0.008)
IFRS_EFFECT	-0.005	-0.008	-0.008**	-0.012
	(0.008)	(0.010)	(0.003)	(0.009)
SIZE	-0.092***	-0.035***	0.003***	-0.006
	(0.003)	(0.004)	(0.001)	(0.004)
SMCTRY * SIZE	0.017	0.008	0.002	0.006
	(0.011)	(0.014)	(0.003)	(0.012)
IFRS_EFFECT*SIZE	0.015	0.009	0.016***	0.037***
	(0.010)	(0.015)	(0.004)	(0.013)
Country fixed effects	Yes	Yes	Yes	Yes
Peer country fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
p-value total IFRS_EFFECT	0.081	0.857	0.000	0.003
R^2	0.187	0.070	0.062	0.014

TABLE 6

Comparability Analysis: Moderated by Audit Type

This Table reports the effects of mandatory IFRS adoption on the comparability of financial accounting information, moderated by the auditor type of compared firms. DKVCOMP is a comparability measure based on De Franco et al. [2011], where firm-to-firm comparability is assessed by the similarity of firm-level earnings on return regressions. CFCOMP is a similar construct, where firm-to-firm comparability is assessed by the similarity of firm-level earnings on cash flow regressions. R_(c) indicates the ranked version of our measurement c. The calculation of both metrics is explained in detail in the paper. Variables are averaged at the country, peer country, and industry level. SMCTRY is a binary variable taking the value of one if country and peer country are the same. GAAP_PROX measures the proximity between GAAP regimes, based on the data used by Bae et al. [2008]. AUDIT is defined 0/0.5/1 if none/one/both of the compared firms have a dominant auditor (KPMG, PWC, Ernst & Young or Deloitte). The estimated models are interacted versions of models (5) and (6). In Panel B, the dependent variable is the change in comparability measures relative to the pre IFRS period. IFRS_EFFECT is the change in GAAP_PROX caused by IFRS adoption. Robust standard errors clustered by country, peer country and industry are reported in parentheses below the coefficients. p-value total IFRS_EFFECT reports the two-sided p-value of a Wald F-test that tests whether the sum of the coefficients for IFRS_EFFECT and IFRS_EFFECT*AUDIT is significantly different from zero, effectively testing whether there is a significant comparability effect of IFRS adoption for firm-pairs where both firms have dominant auditors. ***/**/* marks two-sided significance at the 1/5/10% level.

Panel A: Comparability Analysis Pre IFRS (N=29,707)

	Model (5*)	Model (5*)	Model (5*)	Model (5*)
Dependent Variable	DKVCOMP	R_DKVCOMP	CFCOMP	R_CFCOMP
Intercept	-0.186***	-0.727***	-0.123***	-0.678***
	(0.035)	(0.095)	(0.047)	(0.088)
SMCTRY	0.028***	0.051***	0.003	0.029***
	(0.009)	(0.009)	(0.003)	(0.008)
GAAP_PROX	-0.012	0.003	0.001	0.012
	(0.011)	(0.012)	(0.004)	(0.011)
AUDIT	0.086***	0.066***	0.018***	0.040***
	(0.006)	(0.007)	(0.002)	(0.007)
SMCTRY * AUDIT	-0.019*	-0.015	0.000	-0.010
	(0.011)	(0.012)	(0.003)	(0.010)
GAAP_PROX * AUDIT	0.017	0.007	0.007	0.026**
	(0.012)	(0.014)	(0.004)	(0.013)
Country fixed effects	Yes	Yes	Yes	Yes
Peer country fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
R^2	0.252	0.160	0.290	0.062

TABLE 6 - *Continued*

Panel B: Comparability Analysis IFRS Effect (N=28,565)

	Model (6*)	Model (6*)	Model (6*)	Model (6*)
Dependent Variable	Δ(DKVCOMP)	Δ(R_DKVCOMP)	Δ(CFCOMP)	Δ(R_CFCOMP)
Intercept	0.118***	0.267**	0.030	0.096
	(0.034)	(0.120)	(0.025)	(0.149)
SMCTRY	-0.013	-0.017*	0.001	0.005
	(0.008)	(0.009)	(0.003)	(0.008)
IFRS_EFFECT	-0.016**	-0.012	-0.006*	-0.002
	(0.008)	(0.011)	(0.003)	(0.010)
AUDIT	-0.038***	-0.010***	-0.002*	-0.013***
	(0.003)	(0.003)	(0.001)	(0.003)
SMCTRY * AUDIT	0.004	0.000	0.000	-0.003
	(0.009)	(0.012)	(0.003)	(0.011)
IFRS_EFFECT * AUDIT	0.020**	0.017	0.010***	0.020*
	(0.009)	(0.013)	(0.003)	(0.012)
Country fixed effects	Yes	Yes	Yes	Yes
Peer country fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
p-value total IFRS_EFFECT	0.427	0.481	0.020	0.015
R^2	0.181	0.073	0.070	0.019

TABLE 7

Comparability Analysis: Moderated by Compliance Incentives

This Table reports the effects of mandatory IFRS adoption on the comparability of financial accounting information, moderated by incentives for compliance. DKVCOMP is a comparability measure based on De Franco et al. [2011], where firm-to-firm comparability is assessed by the similarity of firm-level earnings on return regressions. CFCOMP is a similar construct, where firm-to-firm comparability is assessed by the similarity of firm-level earnings on cash flow regressions. R_(c) indicates the ranked version of our measurement c. The calculation of both metrics is explained in detail in the paper. Variables are averaged at the country, peer country, and industry level. SMCTRY is a binary variable taking the value of one if country and peer country are the same. GAAP_PROX measures the proximity between GAAP regimes, based on the data used by Bae et al. [2008]. COMPINC is defined as the sum of country-level size quintiles (0-4) for matched firms, where size is measured by lagged market capitalization plus 0/0.5/1 if none/one/both of the compared firms have a dominant auditor (KPMG, PWC, Ernst & Young or Deloitte). COMPINC is scaled to be distributed between 0 and 1. The estimated models are interacted versions of models (5) and (6). In Panel B, the dependent variable is the change in comparability measures relative to the pre IFRS period. IFRS_EFFECT is the change in GAAP_PROX caused by IFRS adoption. Robust standard errors clustered by country, peer country and industry are reported in parentheses below the coefficients. p-value total IFRS_EFFECT reports the two-sided p-value of a Wald F-test that tests whether the sum of the coefficients for IFRS_EFFECT and IFRS_EFFECT*AUDIT is significantly different from zero, effectively testing whether there is a significant comparability effect of IFRS adoption for firm-pairs within the highest bin of compliance incentives. ***/**/* marks two-sided significance at the 1/5/10% level.

Panel A: Comparability Analysis Pre IFRS (N=66,095)

	Model (5*)	Model (5*)	Model (5*)	Model (5*)
Dependent Variable	DKVCOMP	R_DKVCOMP	CFCOMP	R_CFCOMP
Intercept	-0.303***	-0.588***	-0.126***	-0.549***
	(0.007)	(0.008)	(0.003)	(0.007)
SMCTRY	0.043***	0.053***	0.009**	0.054***
	(0.010)	(0.010)	(0.004)	(0.008)
GAAP_PROX	-0.040***	-0.011	-0.007	-0.023**
	(0.011)	(0.013)	(0.004)	(0.011)
COMPINC	0.254***	0.197***	0.047***	0.102***
	(0.007)	(0.009)	(0.003)	(0.008)
SMCTRY * COMPINC	-0.053***	-0.011	-0.009*	-0.051***
	(0.014)	(0.015)	(0.005)	(0.013)
GAAP_PROX * COMPINC	0.075***	0.024	0.022***	0.094***
	(0.015)	(0.019)	(0.006)	(0.016)
Country fixed effects	Yes	Yes	Yes	Yes
Peer country fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
R^2	0.346	0.203	0.284	0.061

TABLE 7 - *Continued*

Panel B: Comparability Analysis IFRS Effect (N=62,585)

Dependent Variable	Model (6*) Δ(DKVCOMP)	Model (6*) Δ(R_DKVCOMP)	Model (6*) Δ(CFCOMP)	Model (6*) Δ(R_CFCOMP)
Intercept	0.110***	0.030***	-0.021***	0.010
	(0.006)	(0.008)	(0.003)	(0.007)
SMCTRY	-0.017**	-0.021**	0.001	0.000
	(0.008)	(0.010)	(0.003)	(0.008)
IFRS_EFFECT	-0.015*	-0.011	-0.009***	-0.011
	(0.009)	(0.011)	(0.003)	(0.010)
COMPINC	-0.100***	-0.036***	0.003***	-0.005
	(0.003)	(0.004)	(0.001)	(0.004)
SMCTRY * COMPINC	0.015	0.003	0.001	0.006
	(0.012)	(0.015)	(0.004)	(0.013)
IFRS_EFFECT * COMPINC	0.026**	0.011	0.016***	0.031**
	(0.012)	(0.016)	(0.004)	(0.015)
Country fixed effects	Yes	Yes	Yes	Yes
Peer country fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
p-value total IFRS_EFFECT	0.059	0.935	0.002	0.025
R^2	0.189	0.068	0.062	0.014

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